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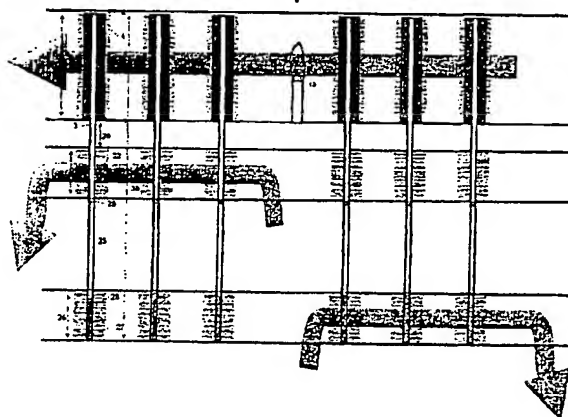
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(54) Title: THERMAL COMPRESSIVE DEVICE



(57) Abstract: A thermal compressive device provides energy-efficient heating or cooling by exploiting heat regeneration in a sorption system. The device comprises an array of generator modules (7) arranged in two banks (10, 11) to either side of a heating zone (13). Heat carrier fluid is driven past the modules in a reversible direction. During one phase, generators in the first bank (10) are cooled and therefore in various stages of sorbate re-adsorption. Sorbate in associated evaporator region(s) (26) will boil, enabling cooling of surrounding fluid (33). Generators (7) in the other bank (11) will be in various stages of desorption. Sorbate in associated condenser region(s) (21) will condense, enabling heating of its environment. During the other phase, each generator (7) switches function, but cooling remains at evaporator regions (26) and heating at condenser regions (21). Each module may be a self-contained unit comprising generator (7), condenser (21) and evaporator (26) sections. In operation, the evaporator section (26) is arranged to be filled with condensed sorbate (28).

WO 2004/011859 A1



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